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SPEECH TO SCIENCE PUBLISHERS
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It's a pleasure to be with you this morning to discuss the attitudes and likely actions of the Congress related to science. Of course, it's always a little dangerous to generalize about Congress – or about any group of 535 people – but there are some clear patterns.

I'm going to talk about two aspects of the way Congress deals with science. First, science funding and second, science findings. I mean by the second how Congress deals with scientific information. Or to put it another way, first, science policy and second, the way science informs policy.

The first point to be made about science policy is perhaps the most remarkable and most overlooked: that's the strong, bipartisan support for funding research and development (R&D). While that consensus is perhaps wider than it is deep, it is still powerful and in many ways unlikely. After all, support for R&D rarely is an issue on the campaign trail, and scientific organizations are hardly the most potent lobbyists in town.

But the belief that R&D underlies our nation's economic success is almost an article of faith these days, and it spans the political spectrum. In an unprecedentedly polarized Congress, the consensus on R&D is especially conspicuous. Moreover, the consensus does not seem to be adversely affected by disputes over any particular aspect of science.

So individual Members of Congress may take issue with conclusions about climate change, or may question individual grants related to sex research, or may have doubts or worse about evolution, but that hasn't seemed to erode the general good will toward research.

I had a meeting last week with one of the most conservative Members of the House, who happens to be on the Appropriations Committee, and he could barely stay seated he was so jazzed up talking about the importance of science. Now his level of enthusiasm and knowledge – he's an avid reader of Science and Nature – are not typical, but his attitude of support was.

And the reason that the House, led by Tom DeLay, reorganized the Appropriations subcommittees this year was to put science in a more favored position. Mr. DeLay was particularly interested in NASA, but he also wanted science more generally to be better positioned to get a larger piece of the federal pie.

These attitudes also extend to the White House, where science fared better than any other non-defense related area of domestic discretionary spending in the President's proposed budget for the next fiscal year.

Now the problem with all this, of course, is that you can't take attitudes to the bank. And because the overall economic situation is so constrained, the outlook for science spending over the next few years is, frankly, rather grim.

Many of us are trying to improve that outlook, but unless the overall budget picture improves, we're only going to be successful at the margins.

How bad do things look? Well, the National Science Foundation (NSF), in many ways our flagship science agency, was cut this year for the first time in decades, and the proposed 2.4 percent increase for next year wouldn't even get the agency back to its fiscal 2004 budget level.

Worse still, that 2.4 percent figure is illusory. It includes a budget transfer from the Coast Guard for icebreaking services NSF already gets in Antarctica, so that money can't be used for anything new. And I'm particularly disturbed by the proposed cut in NSF's education programs, which many of us in Congress view as an essential part of the agency's mission.

The picture is even gloomier at the Department of Energy's Office of Science, a lead funder of the physical sciences, which, as you know, have seen their funding slip relative to the biological sciences. Last year, Congress increased the Office's spending despite a bad budget request, and I hope that will happen again.

But even if the Office receives more than the President has proposed, it's unlikely to see its budget increase in real dollars next year. That's going to start forcing some hard choices about whether it can keep all its facilities in operation. Already, many of its National Laboratory user facilities are up and running only a small fraction of the year.

The outlook for the National Aeronautics and Space Administration (NASA) is also problematic. The President has proposed a 2.4 percent increase for the Agency – too much, I believe, given the state of other science agencies. But it's not as if a 2.4 percent increase would leave NASA "rolling in dough."

Even if NASA gets its full request, which is not unlikely, it will have to struggle to keep a balanced set of programs on course.

My biggest concern with NASA, as I've said often, is not the overall level of its budget, but the balance within that budget. I support the President's Vision for Space Exploration. I think we need to move past the Space Shuttle and Space Station programs and get back to the moon. But I don't think that should be NASA's sole mission.

NASA's highly successful earth science, space science and aeronautics programs have to be allowed to flourish – "continue to flourish" would be the right phrase for the space science programs.

Our Science Committee will be working on a NASA authorization bill, which we plan to report out of Committee no later than the end of July. And I would expect that bill would help set priorities at NASA.

One real bright spot for NASA, by the way, is the appointment of Mike Griffin to head the agency. Mike has long been an advisor to our Committee, and I had a good meeting with him the other day after his confirmation. He is smart, creative, energetic and candid, and he knows the agency inside and out. And he's got his work cut out for him.

One final thought on science spending. We don't just review the science budget with an eye on individual agencies, but also with an eye on how areas of research are faring. For example, we're very concerned that computer science research, especially more basic research, may be getting short shrift. And we also continue to be concerned about whether cybersecurity research is getting sufficient focus.

The Science Committee has been a leader in calling for greater attention to cybersecurity research to improve the level of protection over the long-term. We're going to have a hearing on May 12 with the White House and DARPA and some outside experts, to try to better gauge the state of computer science and whether the federal government is providing enough funding for the right areas of research.

So we have a tough year ahead of us in trying to make sure that Congressional good will toward science is reflected in actual dollars. In the first George Bush's phrase, "We have more will than wallet." But the appropriations cycle is just beginning, and we don't know yet where things will end up.

I should say that the appropriations chairs who are in charge of much of science spending, Frank Wolf of Virginia and David Hobson of Ohio, are strong proponents of science and will do all they can to see that it is treated as well as possible. We work with them extremely closely. Their initial bills may be out of Committee by Memorial Day and certainly by July 4. But no one can predict a specific outcome at this point.

Now let me turn to the ways Congress uses scientific information. Here, too, the picture is mixed in interesting ways.

The first thing to be said is that Congress' general admiration for science carries over into the policy world. A salient feature of contemporary debates is that everyone wants to argue that their position is grounded in science. At least in Congress, science is viewed as objective and factual and incontrovertible, and everyone wants to wrap their arguments in it.

You should have heard the debate we had in the House yesterday on an amendment I offered to increase vehicle fuel economy standards, and even moreso the letters sent back and forth among Congressional offices leading up to the debate. Almost the entire debate was framed as an argument over what the National Academy of Sciences had concluded about Corporate Average Fuel Economy (CAFE) standards in its 2002 study.

And that's pretty typical. But I would note – as one of the people who was most touting the NAS study on fuel economy – I would note that one of the Academy's conclusions was that, in the end, fuel economy standards are a question of values as well as science and they ought to be set by elected representatives.

And that's an important point. Too often in policy debates, all sides like to pretend that the science can lead to only one policy conclusion, that the science is determinative. That's intellectually lazy and dishonest. Science has to inform policy; it rarely determines policy. We all have to be sensitive to where science ends and policy begins.

Let me give you an example of what I mean. In 1997, President Clinton proposed tightening standards for ground-level ozone. I supported those standards, by the way, and they did eventually move forward. But the debate in Congress tended to be framed as "What level of ozone standard does science tell us is appropriate?"

But that question was itself inappropriate. Science could tell us what level of excess hospital admissions were likely to occur at a given level of ozone. Science could not tell us what level of hospital admissions are acceptable. That was a policy question not a science question and the debate was not helped by trying to confute the two.

Here's another example – stem cell research. I support expanding stem cell research. I support that, in part, because of what scientists tell us about the benefits that would result from making more embryonic stem cell lines available. But I don't think in the end that science can dictate an answer in that debate. It's a question of ethics and values, and while the debate should be informed by science – we can't pretend that more stem cell lines are available than is actually the case, for example – the science isn't determinative.

One final example. Climate change. Now this one is a little different because many Members of Congress want to run away from the science or distort it. We ought to be able to reach a consensus on what the science tells us about global warming. And I believe that consensus is that the threat of global warming is real and due to human activity.

But if we ever reach that consensus, it's not going to end the policy debate. In fact, the real policy debate will just begin at that point. Science will help us evaluate the range of possible policy responses to global warming, but it won't point to any single answer.

I would hope that your publications would help delineate the line between science and policy because that would help generate more thoughtful debate.

Now let me close with one final issue that I suspect is on your minds – open access publishing. I'm not going to say much because the Committee is still reviewing the issue. Our staff has met with just about every journal and every interested party on this thorny issue.

I would just make a few points. First, our goal has to be to ensure that scientific information can get to as many people as possible. Second, that there is more than one way to do that and what works in one field or for one journal may not work for others. Third, that the government should act with caution as the publishing industry is evolving.

We may have hearings on this later in the year as we sort through all this and see how the National Institutes of Health rules are working out. I would say that I'm more concerned about creating a populace who will actually know how to understand what's in a scientific publication than I am with the means by which that publication gets into their hands.

I say that because the warm feelings toward science that I've mentioned are hardly matched by deep understanding about science – either in Congress or in the public at large. And I would urge all of you, as the public voices of science, to do all you can to deepen that understanding.

Congress truly is, for better and worse, a representative institution. And so the future of science policy and of science in policy will really depend on what the wider public knows and thinks. And what you do will affect that at least as much as what I do will.

I look forward to working with all of you to come up with ways to make the United States a more scientifically literate society. Thank you.